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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,065	05/29/2007	Toru Takahashi	SHIGA7.050APC	3534
20995 7590 11/30/2009 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614				
EXAMINER HAMILTON, CYNTHIA				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
11/30/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
eOAPilot@kmob.com

# Office Action Summary

**Application No.**

10/580,065

**Applicant(s)**

TAKAHASHI ET AL.

**Examiner**

Cynthia Hamilton

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04/29/09, 07/03/2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3 and 4 is/are allowed.
- 6) ☒ Claim(s) 2, 5, 9-10 is/are rejected.
- 7) ☒ Claim(s) 6-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date 04/29/2007
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The examiner agrees with applicant's arguments filed July 3, 2009, with respect to Claims 1, 3-4 and 8-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al (US 2002/0102401 A1) in view of Kondo et al (EP 0 609 684 A1) and Kondo et al (EP 0 702 271 A1). This rejection is removed.
2. The examiner agrees with applicant's arguments filed July 3, 2009, with respect to Claims 1, 3-4 and 8/7/1, 3-4 through 10/9/1, 3-4 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakashima et al (US 6, 309,796 B1) and the lack of phenolic groups.
3. Claims 2, 5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meier et al (4,994,346). With respect to instant claims 2, 5 and 9-10, Meier et al teaches the instant compositions with the exception of setting forth an explicit working example wherein both a polyfunctional epoxy resin and a polyfunctional vinyl ether compound is present with the solid film forming polyphenol and the cationic photoinitiator and with the exception of using them for a different intended purpose, i.e. negative photoresist imaging. However, the choice of one from three members set forth by Meier of the Markush group consisting of polyfunctional epoxy resin, polyfunctional vinyl ether compound and mixtures thereof would have been prima facie obvious in view of only three selections being present thus make obvious the instant compositions, methods and cured products of instant claims 2, 5 and 9-10. The cationic initiator is inclusive of acid generators as shown in col. 9-column 11, lines 23.
4. Claims 2, 5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knudsen et al (5,262,280). Knudsen et al teaches compositions comprised of phenolic resin binders and epoxidized polybutadiene and divinylether and photoacid generators. Divinylethers

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are possible crosslinkers . There is no explicit example with these components present. In Knudsen et al , see particularly column 2, lines 38-column 5, lines 61, col. 9, lines 54-59, column 11, lines 18-30, column 14, lines 17-column 15, lines 68. With respect to instant claims 2, 5 and 9-10, the use of the divinyl ethers as crosslinkers in the compositions of Knudsen et al would have been prima facie obvious as the simple substitution of one known element for another to obtain predictable results in the methods set forth by Knudsen et al to form negative resist patterns in to objects with substantial flexibility.

5. Applicant's arguments filed July 3, 2009 have been fully considered but they are not persuasive. Applicants argue that negative resist cannot function as a positive resist. The examiner holds that what makes a resist negative or positive is as set forth by applicants in their specification on page 1, lines 18-25, which is as follows:

Photosensitive resin compositions can have various solubilities in a developer solution when irradiated by  
20 light, and photosensitive resin compositions in which solubility in the developer solution is decreased when irradiated by light are referred to as "negative", whereas, photosensitive resin compositions in which solubility in the developer solution is increased when irradiated by  
25 light is referred to as "positive". Specifically, there are

The instant claimed compositions are not limited to any specific developer. While applicants mention alkali soluble with respect to their resin such is not cited with respect to developer. It is known in the photoresist art that compositions can be both negative resists and positive resists

dependent upon the choice of developer only. Yamaoka et al (Journal of Photopolymer Science and Technology) is cited to address this dual nature of some photoresists with divinyl ether and phenolic polymer present. Thus, whether used for positive or negative photoresists with respect to the instant compositions is to the worker of ordinary skill in the art a question of intended use as shown by the general knowledge that some photoresists are both negative and positive dependent solely upon how the compositions are treated. With respect to Knudsen et al, in lines 50 of column 14 to lines 2 of column 15, the choice of negative or positive acting resist is set forth possible by choice of developer. Thus, applicants' allegations are found unsupported. Thus, the rejection stands for reasons of record.

6. Claims 1 and 3-4 are allowed.
7. Claims 6-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Hamilton/  
Primary Examiner, Art Unit 1795

November 23, 2009